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THE EFFECT OF BETA-BLOCKERS ON MORTALITY IN SYSTOLIC HEART FAILURE VARIES BY BASELINE RIGHT VENTRICULAR EJECTION FRACTION: A POST HOC ANALYSIS OF THE BEST TRIAL

ACC Poster Contributions
Ernest N. Morial Convention Center, Hall F
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Background: Low right ventricular ejection fraction (RVEF) has been shown to be associated with increased mortality in systolic heart failure (HF). However, whether the effect of beta-blockers on mortality in systolic HF varies by RVEF is unknown.

Methods: Of the 2708 Beta-Blocker Evaluation of Survival Trial (BEST) patients with advanced HF, left ventricular ejection fraction <35% and 92% NYHA class IV symptoms, 2008 had data on baseline RVEF, estimated by gated-equilibrium radionuclide ventriculography. Of these, 1012 had RVEF <35% (median) and 996 had RVEF ≥35%, of which 52% (527/1012) and 49% (490/996) respectively were randomized to receive bucindolol.

Results: Among the 1012 patients with RVEF <35%, all-cause mortality occurred in 38% and 38% of patients in the bucindolol and placebo groups respectively during over 4 years of follow-up (hazard ratio, 1.02; 95% CI, 0.83-1.24; p=0.884; Figure 1a). Among the 996 patients with RVEF ≥35%, all-cause mortality occurred in 24% and 31% of patients in the bucindolol and placebo groups respectively during the same period (hazard ratio, 0.70; 95% CI, 0.55-0.89; p=0.004; Figure 1b). These differences in the effect of bucindolol on mortality by RVEF were statistically significant (p for interaction, 0.022).

Conclusions: In patients with chronic advanced systolic HF, bucindolol, a nonselective beta-adrenergic blocker with mild vasodilator properties, reduced all-cause mortality only in those with baseline RVEF ≥35% but not in those with RVEF <35%.

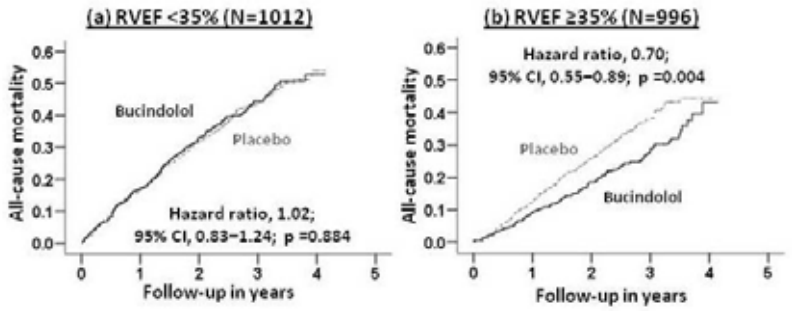

Figure 1: Kaplan Meier plots